

Feed Your Head-Stash

Food and water are two critical components to a successful garden. One of the simplest ways to increase the quantity of your harvest while maintaining quality is knowing the right times to water and feed. It doesn't involve mysticism by any means, but it does require a care and attention to learn the needs of your plants. When the plant is dry and thirsty, it needs water. When the root medium is heavy with moisture, it doesn't. This may seem obvious, but learning to zero in on the optimum times to feed and water is dependent on this simple fact. As with any other aspect of this industry, hands-on contact with the plants, and close attention to them, is of utmost importance. Different needs will present themselves in regard to feeding and watering times, depending on the amount and type of medium, the size of the plants, how recently they were planted or transplanted, the amount of light, heat and ventilation in the room, and other factors such as humidity and air pressure.

Hydro systems

Hydroponic systems are usually automated and should have the simplest schedule to satisfy. Active hydro systems merely need the nutrient solution passed over the medium three or four times a day. This can be done by the disciplined hand, but a timer and pump will eliminate the need. Passive hydro systems allow the roots of the plant to reach the reservoir, eliminating the need for watering altogether. In both types of hydro systems, the reservoirs usually need to be topped off regularly, and the nutrient solution will need to be changed at least once every two to three weeks. This is to help eliminate the nemesis to all hydro systems: algae. Algae can clog hydroponic medium and its tubing. Algae, along with other pests such as mold, fungus and bacteria, are capable of blocking the aerobic quality of the hydro medium and suffocating the plant via its roots. These problems must be addressed immediately upon finding them. Better still is to take the necessary precautions to insure that they don't begin.

The optimum mix

Soil mediums, especially organic varieties, are the trickiest to learn to deal with. Regard the process as an ongoing education, and it will go fine. The difficulty is the many variables related to the problem. Depending on the "mix" of your soil, it may be heavy or light. Heavy soil is generally more moss than perlite and holds water longer. A lighter soil is generally more perlite or vermiculite, and therefore releases its moisture quicker. Learning to condition the soil you are working with is the first step to success. Different brands have different ingredients (and even the same brand may have different ingredients at different times). If you use the basic soil mix I recommend, where equal parts of perlite and coarse cut sphagnum moss make up about 70% of the overall mix, then you have the optimum mix. This mix seems to be the perfect blend for a regulated watering schedule.

Dry weight

Vegetating plants in small containers (two to four inch pots, or 16 to 24 ounce cups) may need watering as often as daily, others may be fine for a couple of days. Plants in larger containers (2 gallon and up) may go anywhere from three to six days between watering. The trick is in realizing when the plant is going to wilt, and watering it the day prior. This is done by physically lifting the plant container and judging its weight. The plant will suck its bucket of medium dry and then begin to wilt. Only experience can reveal what exactly the weight of the dry pot is. If a plant does happen to wilt due to drying out, check the weight of its bucket to see what too far is. We want to avoid wilting as much as possible, but a minor wilt is by no means fatal to the plant. I've seen wilted plants revived within twenty minutes when relieved of their thirst. However, wilting can also contribute to stunting.

Bottom feeding

After getting the soil mix down and learning the right watering time by the dryness, or weight, of the medium container, there is one more important tip to best maintain the proper watering schedule for your plants. I call this tip the bottom feeder method. Not merely because the method was perfected in a white-trash trailer park, but because it serves the nutrient and solution to the outside-bottom of the medium container. The solution is then sucked up by the roots through the holes in the bottom of the buckets. This method requires that the buckets be placed within the confines of a watertight container, such as a solid grow tray or a kiddie pool. The nutrient solution is then dumped or pumped right into the tray, watering many plants at once. It takes the plants anywhere from an hour to a few hours to soak up all of the moisture that they need. Individual mini-trays may be used for each individual container, but this causes much more tedium during watering. There are a number of trays, from large to small and of varying styles and sturdiness, available on the market these days. Some may hold a dozen small plants while others may hold twenty or thirty large plants. An entire grow room may be water-proofed as well. First, lay out a layer of 2-inch thick Styrofoam insulation panels larger than the intended pool. Next, a basic wood frame is constructed to the exact size of the desired pool on top of the Styrofoam. Finally, a swimming pool liner or landscaping pond liner is laid over the area and over the edges of the wood frame, after being fitted to the space. Plant containers may be placed directly in the pool and watered all at once. Please note that although this method allows the greatest ease of watering a large number of plants, it would be nearly impossible to judge exactly how much water these plants would consume in any given watering. Therefore, the garden needs to be checked a few hours after watering to see if the plants need more, or if the excess solution needs to be

removed from the pool.

Less is more

The main focus of feeding should be the concentration and mix of fertilizers in the solution. I cannot emphasize enough that "less is more" when it comes to fertilizing plants. If too little fertilizer is used the only problem will be a slightly smaller yield. Too much fertilizer, however, is liable to ruin the entire crop. It is generally recommended to use less fertilizer than the instructions call for. Most fertilizer companies print their maximum allowed amounts for mixing. I like to use half of what the directions call for. This is especially true if one is mixing different nitrogen fertilizers. If two or more nitrogen fertilizers are used during the same feeding, then even a smaller ratio of each is needed. That is, if two nitrogen fertilizers are mixed together during one feeding, then only a quarter the recommended amount of each is needed to make the final concentration truly half strength. Nitrogen is the most commonly abused fertilizer additive, but this same logic should be applied to phosphorous and potassium concentrations as well. When the fertilizer concentration is low enough, then fertilizer may be added during each watering (except, of course, the last few weeks of pure water flushes). The plants should look like they are thriving if they are properly fed. The leaves should stretch up and out to receive the light. Their color should be bright and consistent with a shiny, healthy glow. New growth should be obvious daily, and the old growth should last as long as possible. Underfertilized plants will merely be slow or, at worst, small, but overfertilized plants may look burned or splotchy. The leaves may become curled, with unnatural looking colors from bright yellow to dusty brown. The stems may stretch and turn dark, or they may harden and solidify, stunting growth. All in all, an overfertilized plant will look unhealthy and deeply in need. If signs of overfertilization appear, it may be necessary to dilute the concentration with pure water. For one or two waterings flush the plants with water only, and see if the situation improves. There are organic soil additives on the market that eliminate the need for any extra fertilizer additives in the water. Many of these fertilizer additives are made up of harsh petrochemicals. The best organic substances I've found are bat and seabird guano and pure worm castings. Fossilized bat and bird guano come in a powder form, while pure worm castings are like a very rich manure. Both may be added to soil to enhance its nutrient level. Most indoor plants do not remain in the same container for any longer than two months. So once the right soil mix is obtained then water alone will suffice, or water with a B-vitamin supplement to help the plant best metabolize the nutrients available to it. Plants grown using this method produce some of the most outstanding flavors and desirable palate and head.